

REMARKS

Favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

The Abstract was objected to as containing legal phraseology.

The Abstract has been replaced with a substitute Abstract submitted on a single page submitted concurrently herewith.

In view of the foregoing, the objection to the Abstract is deemed to be overcome.

Claims 1-6 were rejected under 35 USC 112, second paragraph, as being indefinite for the reasons set forth.

Claims 1-6 have been cancelled without prejudice and replaced with new claims 7-18 to more particularly point out and distinctly claim the subject matter of this invention in conformance with U.S. practice.

In view of the foregoing, the rejection of the claims under 35 USC 112, second paragraph, is deemed to be overcome.

Lastly, claims 1-6 were rejected under 35 USC 103 as unpatentable over USP 6,955,744 to Decker et al. with or without GB 1,083,910. This ground of rejection is respectfully traversed as applied to the new claims.

Decker et al. (USP 6,955,744B2) describe a process for preparing 2-chloro-5-chloromethylthiazole (CCMT) by distillation with addition of oligomeric polyethers (see column 1, lines 10-12). As the oligomeric polyethers, "oligomeric polyethers having one or two terminal hydroxyl groups", and "polyethylene glycol or polypropylene glycol---in each case with an average molar mass in the range from 200-3000 daltons" are mentioned on column 1, lines 48-53 in Decker et al.

On the other hand, in the present invention, distillation of crude CCMT is conducted for purification with addition of a lower alcohol, i.e. C₁₋₆ alcohols such as methanol, ethanol, propanol, isopropyl alcohol, butanol, isobutanol, sec-butanol, tert-butanol, pentanol and hexanol (c.f. page 7, lines 4-7 of the present specification)

Molecular weight of C₁₋₆ alcohols used in the present invention is 32 (methanol) to 102 (octanol).

It is clear that oligomeric polyethers having one or two terminal hydroxyl groups are quite different in the structure and physicochemical property from a lower alcohol (C₁₋₆ alcohols).

The difference between a lower alcohol and polyethers having one or two terminal hydroxyl groups is shown below.

The present invention	Decker et al.
Lower alcohol: C ₁₋₆ alcohols, e.g. CH ₃ OH, C ₂ H ₅ OH, -----, C ₆ H ₁₃ OH	Polyethers having one or two terminal hydroxyl groups: H(OCH ₂ CH ₂) _n OH (polyethylene glycol)* CH ₃ H(OCHCH ₂) _n OH (polypropylene glycol) n is greater than or equal to 4*
Molecular weight 32 - 102	Molecular weight 200-3000
Monomer	Polymer
Not viscous liquid at ordinary temperature.	viscous liquid or wax at ordinary temperature.
Possible to distillate at atmospheric pressure	Impossible to distillate at atmospheric pressure

* The Merck Index, Thirteenth edition, item 7651 enclosed.

Further, Decker et al. neither teach or suggest that oligomeric polyethers having one or two terminal hydroxyl groups is equivalent to, or may be substituted with a lower alcohol (C_{1-6} alcohols): In other words, there are neither clues nor hints to use a lower alcohol (C_{1-6} alcohols) instead of oligomeric polyethers having one or two terminal hydroxyl groups in Decker et al.

Nicholas et al. (GB 1,083,910) describe on page 2, lines 58-65 that “the compounds --- includes ---- aliphatic monohydric alcohols such as ethyl alcohol, propyl alcohol and octyl alcohol (octanol), ethylene glycol, ---, diethylene glycol, triethylene glycol ---”. That is to say, Nicholas et al. only describe equally “aliphatic monohydric alcohols”, “ethylene glycol”, “diethylene glycol” or “triethylene glycol”.

Nicholas et al. does not describe “polyethylene glycol” and “polypropylene glycol” that belong to “oligomeric polymers having one or two terminal hydroxyl groups” described in Decker et al.

It is self-explanatory that “polyethylene glycol” (please see the Merck Index, Thirteenth edition, item 7651, enclosed herewith) is another product from “ethylene glycol” or diethylene glycol, or triethylene glycol.

Nicholas et al. describe that compounds containing at least one active hydrogen atom is used as starting materials for polymerization of 1,2-alkylene oxides (see page 2, lines 44-69).

Namely, these descriptions have no relation with the art of the process for preparing 2-chloro-5-chloromethylthiazole (CCMT) by distillation. Accordingly, a person skilled in the art would not combine Nicholas et al. with Decker et al. to arrive at the present invention.

Even if Nicholas et al. is combined with Decker et al., distillation of crude CCMT for purification in the presence of a lower alcohol, i.e. C_{1-6} alcohols of the present invention, is unobvious to a person skilled in the art, because Nicholas et al. neither teach nor suggest that a lower alcohol (C_{1-6} alcohols) is equivalent to, or may be substituted with, oligomeric polyethers having one or two terminal hydroxyl groups.

In view of the foregoing, it is respectfully submitted that each ground of rejection set forth in the Official Action has been overcome, and that the application is now in condition for allowance. Accordingly, such allowance is solicited.

Respectfully submitted,

Toshikazu OGA et al.

By Warren M. Cheek
Warren M. Cheek
Registration No. 33,367
Attorney for Applicants

WMC/dlk
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
June 27, 2008